

REMARKS

Reconsideration and allowance of the subject application are respectfully requested. Claims 1-6 and 8-27 remain pending. Claims 1, 20, 22-25, and 27 are independent claims.

Applicants acknowledge the Examiner's indication on page 2 of the Office Action that the amendments submitted November 8, 2002 have overcome the rejection under 35 U.S.C. § 112.

Interview

Applicants appreciate the opportunity granted their representative to conduct a personal interview on March 14, 2003 with Examiner Mouttet and Primary Examiner Tran. During the course of the interview, Applicants' representative asserted that the asserted combination of references, particularly Yamada (U.S. Patent 5,927,872) in view of *Sekendur* (U.S. Patent 5,852,434) fails to establish *prima facie* obviousness of any pending claim. Applicants' position stated during the interview is consistent with the detailed patentability arguments presented hereinbelow. Applicants respectfully request that the Examiner reconsider and withdraw the outstanding prior art rejections at least in view of these patentability arguments.

Prior Art Rejections

Claims 1-6, 8-10, 12-14, 16-18, 20, 22-25, and 27 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over

Yamada in view of *Sekendur*. This rejection is respectfully traversed.

Independent claim 1 is directed to an apparatus for printing graphical information on a surface. The apparatus of claim 1 comprises: a print head for printing indicia on the surface; an image sensor for recording an image of the surface, wherein the recorded image contains a position-coding pattern that identifies a position on the surface; and a processor for converting the recorded image into a recorded position. Claim 1 specifies that the recorded position is defined by two coordinate values. The print head prints indicia on the surface based on a comparison of the recorded position with the graphical information to be printed.

An object of the present invention is to provide a small, hand-held printer that is insensitive to the printer being lifted from the surface and that is insensitive to the position in which the printing is started. According to the invention, the surface on which the printer is to print is provided with an absolute position-coding pattern. This pattern is arranged to code the absolute coordinates for a position, which means that the printer can determine its position by registering a portion of the surface. The printer prints in positions that correspond to positions in the graphical information that are to be printed. As the position is determined by transformation of a position coordinate, the image

sensor of the printer only has to record a small portion of the surface to know its absolute position. Thus, no prior knowledge of earlier movement of the printer is necessary and no correlations between pictures are required. This makes the position determination fast and reliable.

Yamada discloses a system and a method for printing information. The printer 10 described by *Yamada* is hand-held and, as illustrated for example in Fig. 4, includes a plurality of navigation sensors 30 to track movement of the printer 10 relative to a print medium during a printing process. As illustrated in Fig. 5 (discussed at col. 5, line 59 - col. 6, line 40), the hand-held printer 10 of *Yamada* compares successively generated images to determine relative position. By comparing images of the surface to be printed, captured at different times, the movement of the hand-held printer 10 can be determined. The hand-held printer 10 of *Yamada* starts to print in a position where it is initiated to start printing. When the printer 10 is moved over the surface, it determines its position based on a comparison of a captured image with a previously captured image and a previously determined position. Pattern variations on the print medium, such as paper fibers or highly reflective surface portions, may be detected to aid tracking. Col. 9, lines 52-54.

In rejecting independent claim 1, the Examiner recognizes that *Yamada* does not utilize a position-coding pattern of the type required for the apparatus of claim 1, but concludes that the secondary reference, *Sekendur*, makes up for this deficiency and that it would have been obvious to somehow modify *Yamada* in light of *Sekendur* in a manner that satisfies the features of independent claim 1.

To establish *prima facie* obviousness, all claim limitations must be taught or suggested by the prior art and the asserted modification or combination of prior art must be supported by some teaching, suggestion, or motivation in the applied reference or in knowledge generally available to one skilled in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The prior art must suggest the desirability of the modification in order to establish a *prima facie* case of obviousness. *In re Brouwer*, 77 F.3d 422, 425, 37 USPQ2d 1663, 1666 (Fed. Cir. 1995). It can also be said that the prior art must collectively suggest or point to the claimed invention to support a finding of obviousness. *In re Hedges*, 783 F.2d 1038, 1041, 228 USPQ 685, 687 (Fed. Cir. 1986); *In re Ehrreich*, 590 F.2d 902, 908-09, 200 USPQ 504, 510 (CCPA 1979).

In this case, Applicants note that *Sekendur* describes a device for indicating the instantaneous position and movement of a stylus

on a surface, and makes no mention or suggestion of applying its position detecting technique to printing, in the manner required by claim 1 of this application. Applicants find no suggestion in either reference, or in knowledge generally available to those skilled in the art, to modify the relative-position based printing system of *Yamada* in the manner asserted by the Examiner. Furthermore, it is important to recognize that nearly the entire disclosure of *Yamada* appears to be directed to improving performance of relative tracking of printer movement without requiring the use of specially-coded paper. Thus, modifying the hand-held printer 10 of *Yamada* in the manner asserted by the Examiner would change the principle of operation of the printer disclosed therein. As specified in MPEP § 2143.01, the teachings of references is insufficient to establish *prima facie* obviousness when the asserted modification would change the principle operation of the prior art invention being modified.

At least for these reasons, Applicants submit that claim 1 patentably distinguishes over the asserted combination of *Yamada* in view of *Sekendur*. Independent claims 20, 22-25, and 27 define over this asserted combination based on similar reasoning. Each rejected dependent claim defines over the asserted combination of *Yamada* and *Sekendur* at least for depending from an allowable base claim.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 102 based on *Yamada* and the rejection under 35 U.S.C. § 103 based on the asserted combination of *Yamada* in view of *Sekendur*.

Claims 11, 21, and 26 stand rejected under 35 U.S.C. § 103 as allegedly being unpatentable over *Yamada* in view of *Sekendur*, and further in view of *Sato et al.* (U.S. Patent 4,851,921); claim 15 stands rejected under 35 U.S.C. § 103 as allegedly being unpatentable over *Yamada* in view of *Sekendur*, and further in view of *Montgomery et al.* (U.S. Patent 4,797,544); and claim 19 stands rejected under 35 U.S.C. § 103 as allegedly being unpatentable over *Yamada* in view of *Sekendur*, and further in view of *Poole* (U.S. Patent 5,816,718). These rejections are respectfully traversed.

As set forth on pages 3-6 of the Office Action, the Examiner relies on additional secondary references as allegedly teaching incremental features of the rejected dependent claims. Applicants submit, however, that the Examiner's reliance on these references fails to make up for the deficiencies discussed above with regard to the independent claims. Accordingly, the Examiner's rejections fail to establish *prima facie* obviousness of any pending claim.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the Examiner's rejections under 35 U.S.C. § 103.

Conclusion

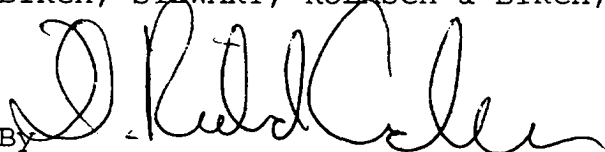
Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

Applicants respectfully petition for a three (3) month extension of time pursuant to 37 C.F.R. §§ 1.17 and 1.136(a). A check in the amount of \$930.00 in payment of the extension of time fee is attached.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 

D. Richard Anderson, #40,439

DRA/jdm
3782-0118P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000